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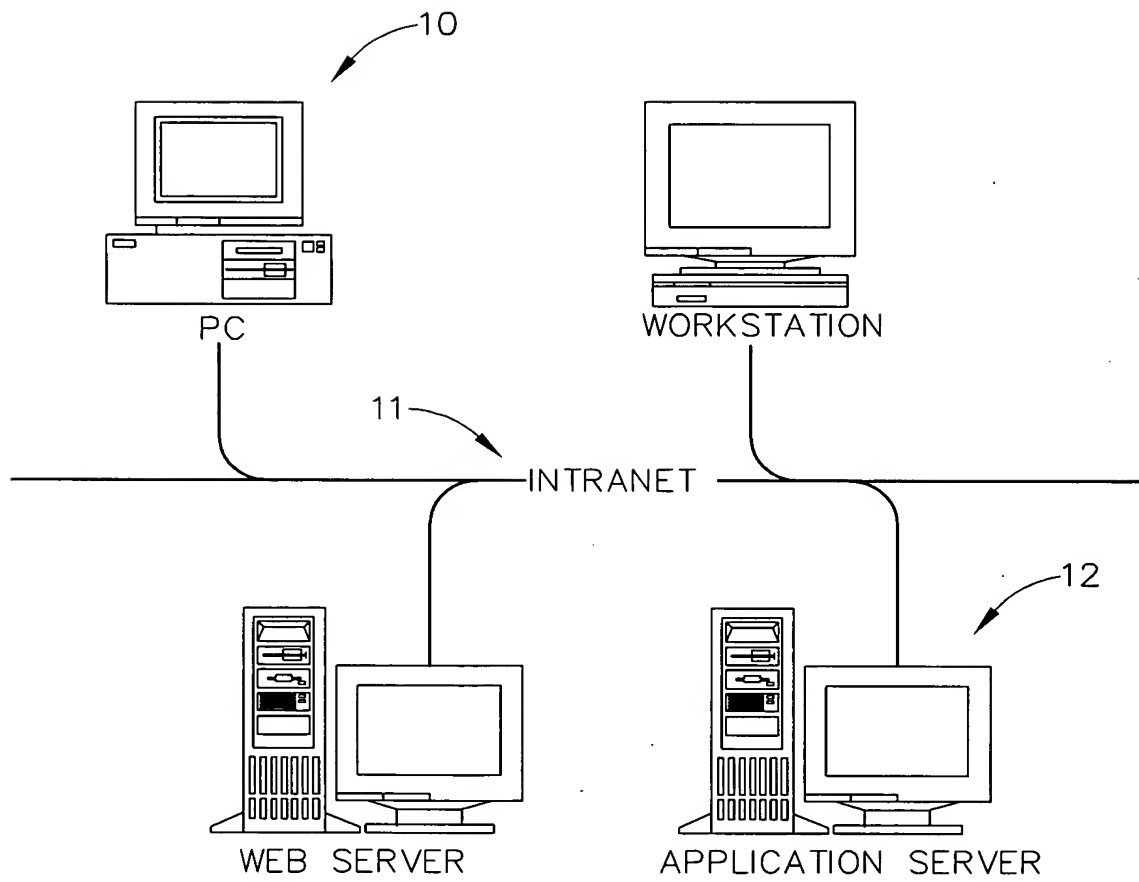


FIG. 1

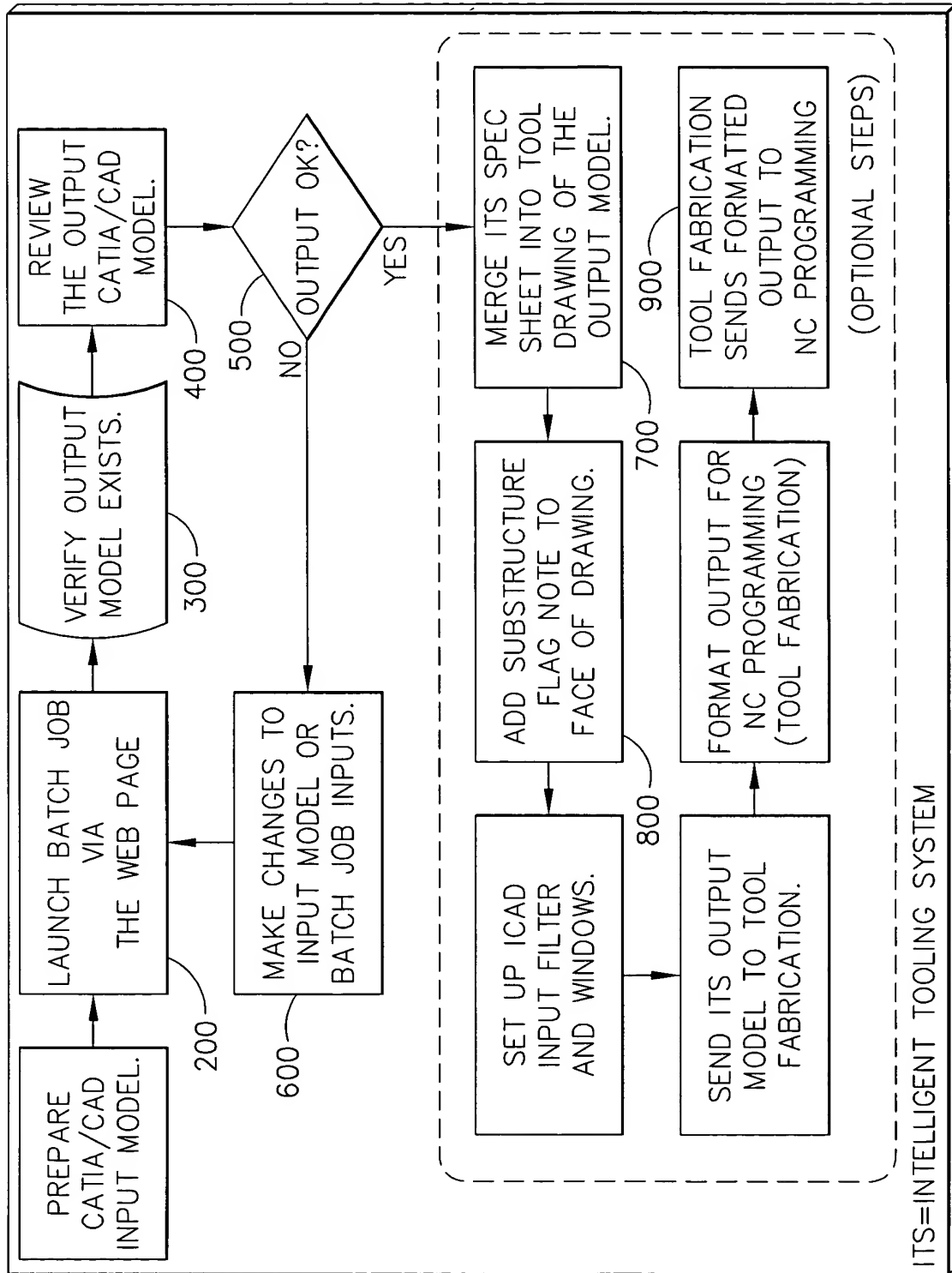


FIG. 2

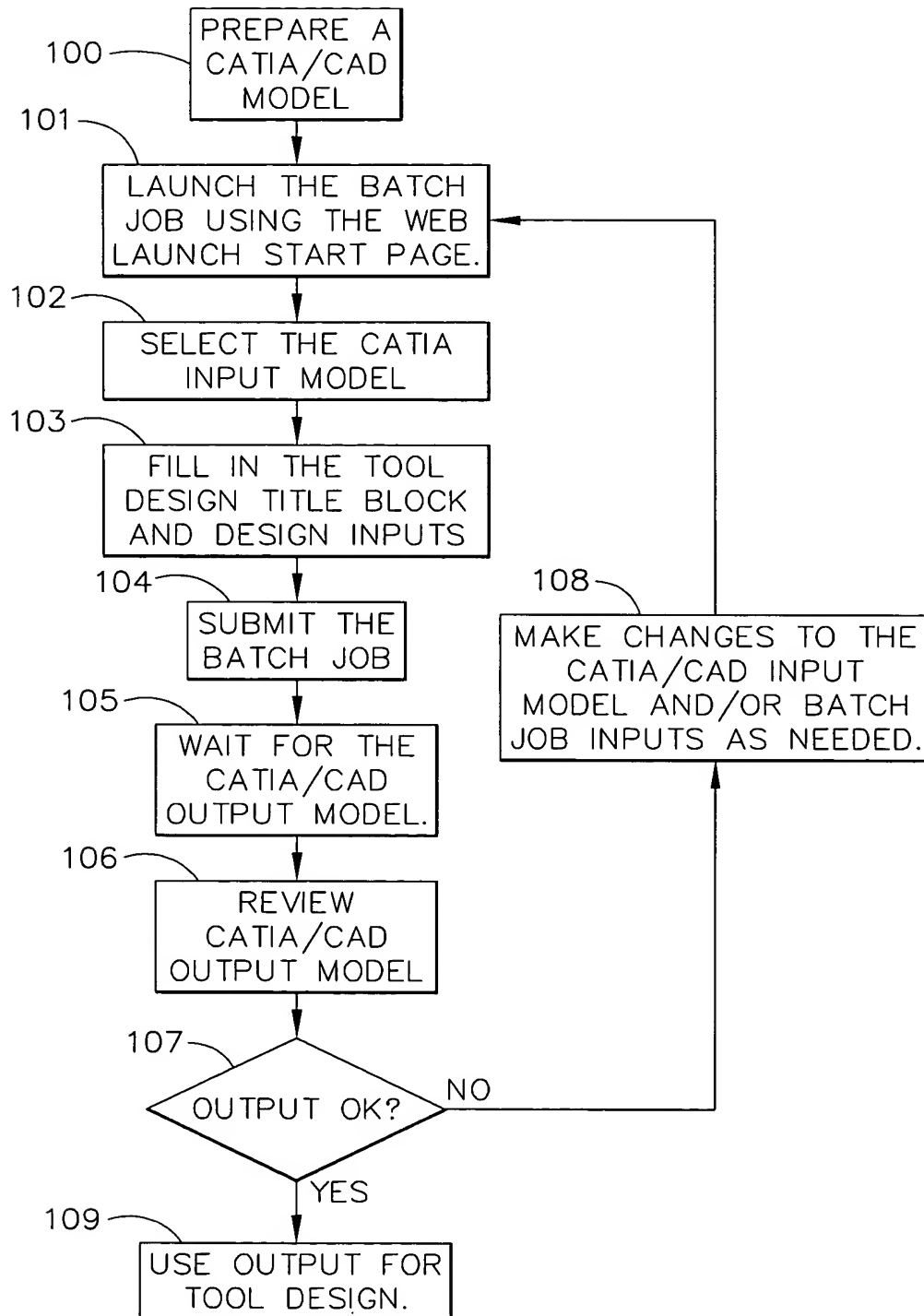


FIG. 3

<p>Welcome!</p> <p>We want to hear from you.</p> <p>Please provide us feed-back on this Version of the web launch.</p>		<p>ONLINE USAGE GUIDE</p> <p>JOB LOGS</p>
<p>GWL 2.1.2 GWL Help</p> <p>User ID: <input type="text" value="Demo"/> <input type="button" value="List"/></p> <p>Input file: <input type="text"/> <input type="button" value="List"/></p> <p><input type="button" value="Continue"/></p>		

FIG. 4

LMBAJ - Select CATIA MODELS

Input CATIA Model [GWL Help](#)

Model File Location:

User ID: Group (for mainframe listing only):

- CATIA FILE:
- MODEL string:

List Models: ☐ Use cached listing if possible

FIG. 5

Form Index

Title Block

Geometry-Input Specs 1

Geometry Input Specs 2:

Geometry Input Specs 3:

Top Curve Inputs:

Interlock Slot Inputs

AC Notch Inputs

Diagonal Inputs

Lightening-Hole Set Inputs

Output Options

Submit Job

Output the Draw Input Spec Sheet?: ☐ NO ☒ YES

Output the Comments Page Input Spec Sheet? ☐ NO ☒ YES

TITLE BLOCK INPUTS

• Tool Code: LM

• Tool Number: Demo

• Sheet Number: 1

• **Sheet Rev Level:** NEW

Part Number: 1

• TDR:TF-CS Number: |

• **User Name:**

• Organization:

• Phone Number: _____

Output the Draw Input Spec Sheet?: ☐ NO ☒ YES

Output the Comments Page Input Spec Sheet? ☐ NO ☒ YES

Fig. 6

Please fill out the form and submit.

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[Submit Job]

GEOMETRY INPUT SPECS 1

CB = Contoured Bottom

Include Location Notches? ☐ NO ☒ YESDefault Layer Offset

Thickness & Type(s)	Color(s)	Layer(s)	Offset <i>n</i> Layers
Top Surface Parts: <input checked="" type="checkbox"/> Face <input type="checkbox"/> Planer-face <input type="checkbox"/> Surface	<input type="checkbox"/> White <input checked="" type="checkbox"/> Cyan <input type="checkbox"/> Yellow <input type="checkbox"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Blue <input type="checkbox"/> Magenta <input type="checkbox"/> Red	<input type="text" value="10"/>	
Q-Periphery Locations: Thk: <input type="text" value="1"/> Type: <input checked="" type="checkbox"/> Line <input checked="" type="checkbox"/> Plane	<input type="checkbox"/> White <input type="checkbox"/> Cyan <input type="checkbox"/> Yellow <input type="checkbox"/> Gray <input type="checkbox"/> Green <input checked="" type="checkbox"/> Blue <input type="checkbox"/> Magenta <input type="checkbox"/> Red	<input type="text" value="1"/>	<input type="text" value="default"/>
Q-Interior Header Locations: Thk: <input type="text" value="1"/> Type: <input checked="" type="checkbox"/> Line <input checked="" type="checkbox"/> Plane	<input type="checkbox"/> White <input type="checkbox"/> Cyan <input type="checkbox"/> Yellow <input type="checkbox"/> Gray <input checked="" type="checkbox"/> Green <input type="checkbox"/> Blue <input type="checkbox"/> Magenta <input checked="" type="checkbox"/> Red	<input type="text" value="2"/>	<input type="text" value="default"/>
Q-Interior Intercostal Locations: Thk: <input type="text" value="1"/> Type: <input checked="" type="checkbox"/> Line <input checked="" type="checkbox"/> Plane	<input type="checkbox"/> White <input type="checkbox"/> Cyan <input type="checkbox"/> Yellow <input type="checkbox"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Blue <input type="checkbox"/> Magenta <input checked="" type="checkbox"/> Red	<input type="text" value="3"/>	<input type="text" value="default"/>
Q-CB-Interior Header Locations: Thk: <input type="text" value="25"/> Depth: <input type="text" value="4.0"/> Overhang: <input type="text" value="0.0"/> Fillet Radius: <input type="text" value="25"/> LH? <input checked="" type="radio"/> NO <input type="radio"/> YES Type: <input type="checkbox"/> Line <input type="checkbox"/> Plane	<input type="checkbox"/> White <input type="checkbox"/> Cyan <input type="checkbox"/> Yellow <input type="checkbox"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Blue <input type="checkbox"/> Magenta <input type="checkbox"/> Red		<input type="text" value="default"/>
Q-CB-Interior Intercostal Locations: Thk: <input type="text" value="1"/> Depth: <input type="text" value="8"/> Overhang: <input type="text" value="1"/> Fillet Radius: <input type="text" value="25"/> LH? <input checked="" type="radio"/> NO <input type="radio"/> YES Type: <input checked="" type="checkbox"/> Line <input checked="" type="checkbox"/> Plane	<input type="checkbox"/> White <input type="checkbox"/> Cyan <input type="checkbox"/> Yellow <input type="checkbox"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Blue <input type="checkbox"/> Magenta <input checked="" type="checkbox"/> Red	<input type="text" value="4"/>	<input type="text" value="default"/>

FIG. 7

Please fill out the form and submit.

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Thickness & Type(s)	Color(s)	Layer(s)	Offset n Layers
Q- Bottom Stiffener Intercoastal Locations:			
Thk: <input type="text" value="25"/> Height: <input type="text" value="6.0"/> Overhang: <input type="text" value="0.0"/> Fillet Radius: <input type="text" value="25"/> LH? <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES Type: <input type="checkbox"/> Line <input type="checkbox"/> Plane	<input type="checkbox"/> White <input type="checkbox"/> Cyan <input type="checkbox"/> Yellow <input type="checkbox"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Blue <input type="checkbox"/> Magenta <input type="checkbox"/> Red	<input type="text"/>	<input type="text" value="default"/>
Contour Seam Support Locations:			
Thk: <input type="text" value="25"/> Depth: <input type="text" value="4.0"/> Type: <input type="checkbox"/> Line <input type="checkbox"/> Plane	<input type="checkbox"/> White <input type="checkbox"/> Cyan <input type="checkbox"/> Yellow <input type="checkbox"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Blue <input type="checkbox"/> Magenta <input type="checkbox"/> Red	<input type="text"/>	<input type="text" value="default"/>
Diagonal CB Intercoastal Locations:			
Thk: <input type="text" value="25"/> Type: <input type="checkbox"/> Line <input type="checkbox"/> Plane	<input type="checkbox"/> White <input type="checkbox"/> Cyan <input type="checkbox"/> Yellow <input type="checkbox"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Blue <input type="checkbox"/> Magenta <input type="checkbox"/> Red	<input type="text"/>	<input type="text" value="default"/>
Diagonal Interior Intercoastal Locations:			
Thk: <input type="text" value="25"/> Type: <input type="checkbox"/> Line <input type="checkbox"/> Plane	<input type="checkbox"/> White <input type="checkbox"/> Cyan <input type="checkbox"/> Yellow <input type="checkbox"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Blue <input type="checkbox"/> Magenta <input type="checkbox"/> Red	<input type="text"/>	<input type="text" value="default"/>
Snap to Diagonal Locations:			
<input checked="" type="checkbox"/> Line <input type="checkbox"/> Plane	<input type="checkbox"/> White <input type="checkbox"/> Cyan <input type="checkbox"/> Yellow <input type="checkbox"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Blue <input checked="" type="checkbox"/> Magenta <input type="checkbox"/> Red	<input type="text" value="5"/>	
Diagonal Locations:			
<input type="checkbox"/> Line <input type="checkbox"/> Plane	<input type="checkbox"/> White <input type="checkbox"/> Cyan <input type="checkbox"/> Yellow <input type="checkbox"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Blue <input type="checkbox"/> Magenta <input type="checkbox"/> Red	<input type="text"/>	
Stayout Area Solids:			
<input checked="" type="checkbox"/> Solid	<input type="checkbox"/> White <input type="checkbox"/> Cyan <input checked="" type="checkbox"/> Yellow <input type="checkbox"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Blue <input type="checkbox"/> Magenta <input type="checkbox"/> Red	<input type="text" value="5"/>	
Lightening Hole Stayout Area Solids:			
<input checked="" type="checkbox"/> Solid	<input type="checkbox"/> White <input type="checkbox"/> Cyan <input checked="" type="checkbox"/> Yellow <input type="checkbox"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Blue <input type="checkbox"/> Magenta <input type="checkbox"/> Red	<input type="text" value="6"/>	

FIG. 8

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GEOMETRY INPUT SPECS 3

(Non-Quick Sketch Supports)

Thickness & Type(s)	Color(s)	Layer(s)	Offset n Layers
Periphery Locations: Thk: - (See Input Specs 1) Type: <input type="checkbox"/> Line <input type="checkbox"/> Plane	<input type="checkbox"/> White <input type="checkbox"/> Cyan <input type="checkbox"/> Yellow <input type="checkbox"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Blue <input type="checkbox"/> Magenta <input type="checkbox"/> Red		See Specs 1
Interior Header Locations: Thk: - (See Input Specs 1) Type: <input type="checkbox"/> Line <input type="checkbox"/> Plane	<input type="checkbox"/> White <input type="checkbox"/> Cyan <input type="checkbox"/> Yellow <input type="checkbox"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Blue <input type="checkbox"/> Magenta <input type="checkbox"/> Red		See Specs 1
Interior Intercostal Locations: Thk: - (See Input Specs 1) Type: <input type="checkbox"/> Line <input type="checkbox"/> Plane	<input type="checkbox"/> White <input type="checkbox"/> Cyan <input type="checkbox"/> Yellow <input type="checkbox"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Blue <input type="checkbox"/> Magenta <input type="checkbox"/> Red		See Specs 1
CB-Interior Header Locations: Thk: Depth: - (See Input Specs 1) Fillet Radius: LH? - (See Input Specs 1) Type: <input type="checkbox"/> Line <input type="checkbox"/> Plane	<input type="checkbox"/> White <input type="checkbox"/> Cyan <input type="checkbox"/> Yellow <input type="checkbox"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Blue <input type="checkbox"/> Magenta <input type="checkbox"/> Red		See Specs 1
CB-Interior Intercostal Locations: Thk: Depth: - (See Input Specs 1) Fillet Radius: LH? - (See Input Specs 1) Type: <input type="checkbox"/> Line <input type="checkbox"/> Plane	<input type="checkbox"/> White <input type="checkbox"/> Cyan <input type="checkbox"/> Yellow <input type="checkbox"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Blue <input type="checkbox"/> Magenta <input type="checkbox"/> Red		See Specs 1
Bottom Stiffener Intercostal Locations: Thk: Depth: - (See Input Specs 2) Fillet Radius: LH? - (See Input Specs 2) Type: <input type="checkbox"/> Line <input type="checkbox"/> Plane	<input type="checkbox"/> White <input type="checkbox"/> Cyan <input type="checkbox"/> Yellow <input type="checkbox"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Blue <input type="checkbox"/> Magenta <input type="checkbox"/> Red		See Specs 2

FIG. 9

[illegible]

FIG. 10B

Please fill out the form and submit.

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AIR CIRCULATION NOTCH INPUTS

Include Air Circulation notch features? ☐ NO ☒ YES Place Notches at Interlock Slot Joints? ☐ NO ☒ YES

Air Circulation Notch type: filleted-notch Place Notches at Butt Joints? ☐ NO ☒ YES

- Minimum Separation: 2.25
- Min notch-to-notch: 1.95
- End Separation: 1.0
- Notch Depth: 2.0
- Max Notch Width: 4
- Min Notch Width: 3.5
- Notch Fillet Radius: .75

Spacing Curve Smoothing Inputs

- Smooth Out AC Set Spacing Curve? ☐ NO ☒ YES
- Spacing Curve Smoothing radius: 0.50

Thin Solid Area Test Inputs

- Check front and rear of notch for thin area? ☐ YES ☒ NO
- Offset Test Distance: 0.25
- Minimum Test Angle: 30.0

Basis Area vs Final Area Test M4

- Check Area Using Area Test M4? ☐ NO ☒ YES
- Test Factor: 3/4

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FIG. 10C

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DIAGONAL INPUTS

All Diagonal Types:

- Thickness:
- Height:
- Same Diagonal Length Tol:
- Interlock Slot Rounded Corners?: ☒ YES
- Interlock Slot to Slot Clearance:
- Interlock Slot Edge Clearance:

Swap to Diagonals:

- Solving Tolerance:
- Use 2nd Algorithm?: ☒ YES
- Maximum Number of Iterations:
- Solved Length Clearance:
- Stayout Area Added Clearance:

FIG. 10D

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LIGHTENING HOLE INPUTS

Include Lightening Hole features?: ☐ NO ☒ YES

Lightening Hole type: ☐ Blended Rectangle ☒ Stacked

Stacked Lightening Hole features?: ☐ NO ☒ YES

• Fillet Radius:

• Separation:

• Stack separation:

• End separation:

• Base edge margin:

• Top Offset:

• Max hole width:

• Min hole width:

• Max hole height:

• Min hole height:

• Use Unblended Holes?: ☐ NO ☒ YES

• Valid Hole Test Factor:

Stayout Area Inputs

• Stayout Area Offset Distance:

Blended Truss Inputs

• Double Truss?: ☐ NO ☒ YES

• Single Truss Pattern: ☐ alternate stack-and-subset ☒ standard

• Truss Width:

Stayout Area Inputs

• Stayout Area Offset Distance:

[\[Submit Job \]](#)

FIG. 10E

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Output Options

- All Supports CATIA Output Method: (Use :Local for large or complex Tools)
- Solid Modeler Mode:
- CATIA v4 output formatted for CATIA V5?: ☐ NO ☒ YES (Create a detail for each Support -> v5 Parts)

CATIA v4 output formatted for CATIA V5 - Options:

- Test for like Supports for each Support Type?: ☐ NO ☒ YES (v5 Products)
- Create Sub-Assemblies for each Support Type?: ☐ NO ☒ YES (v5 Products)
- Create a Sub-Assembly for Diagonals?: ☐ NO ☒ YES (v5 Product)
- Support Sketch Location: Diagonal Sketch Location:
- Output Supports As: Output Diagonals As:

[\[Submit Job \]](#)

FIG. 10F

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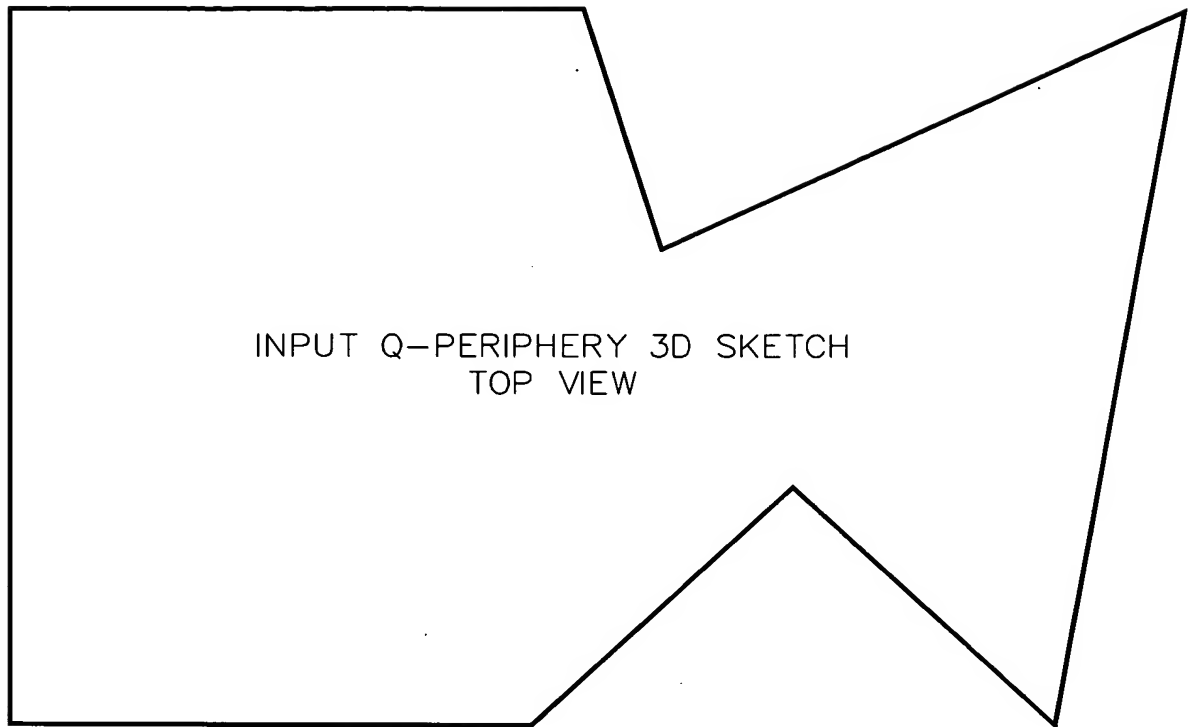


FIG. 11

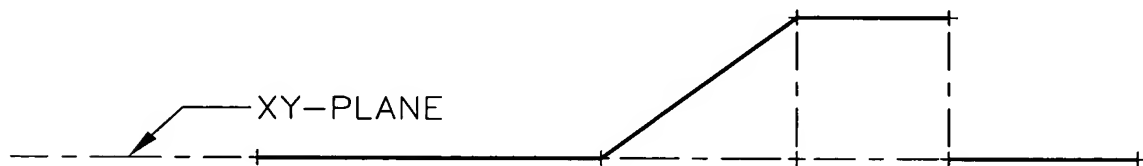


FIG. 12

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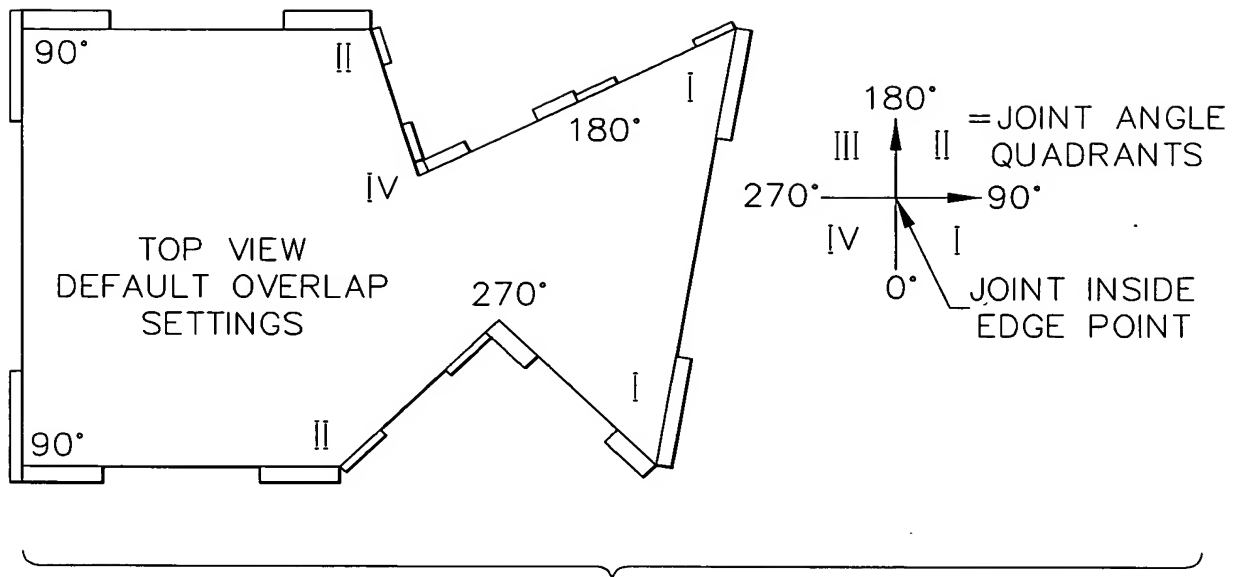


FIG. 13A

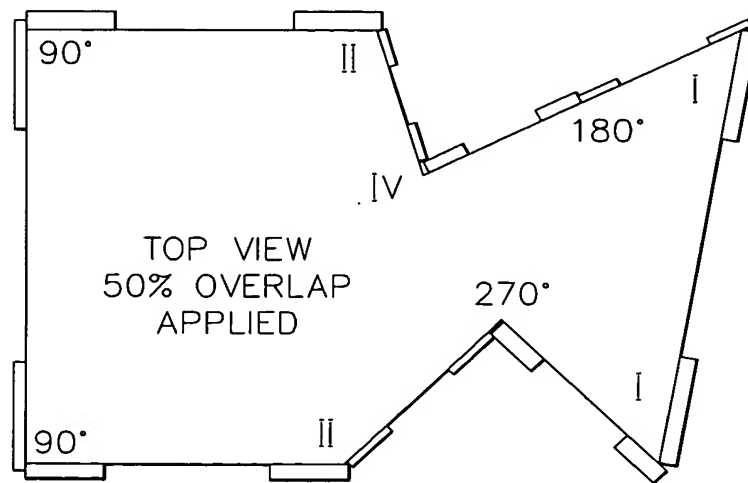


FIG. 13B

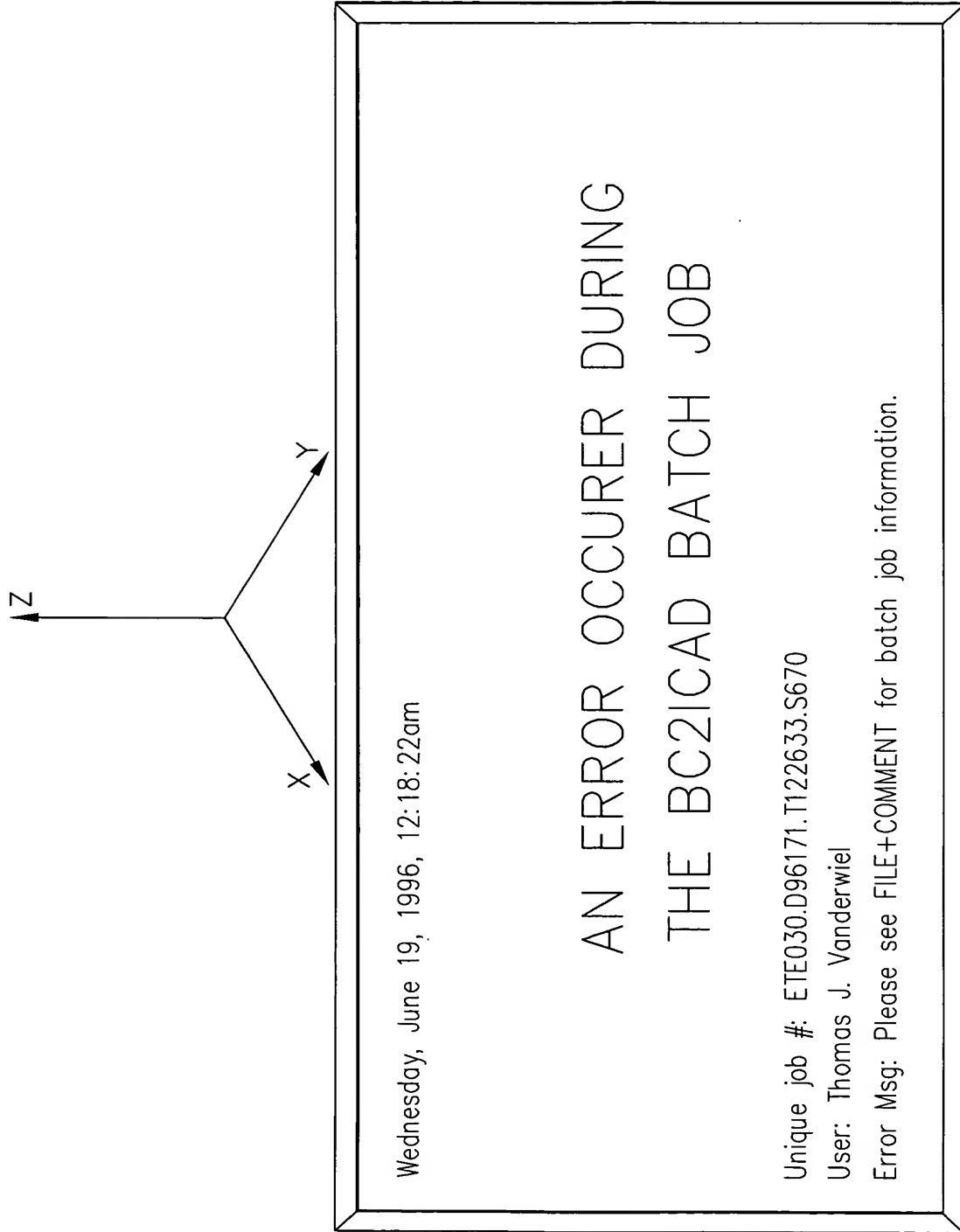
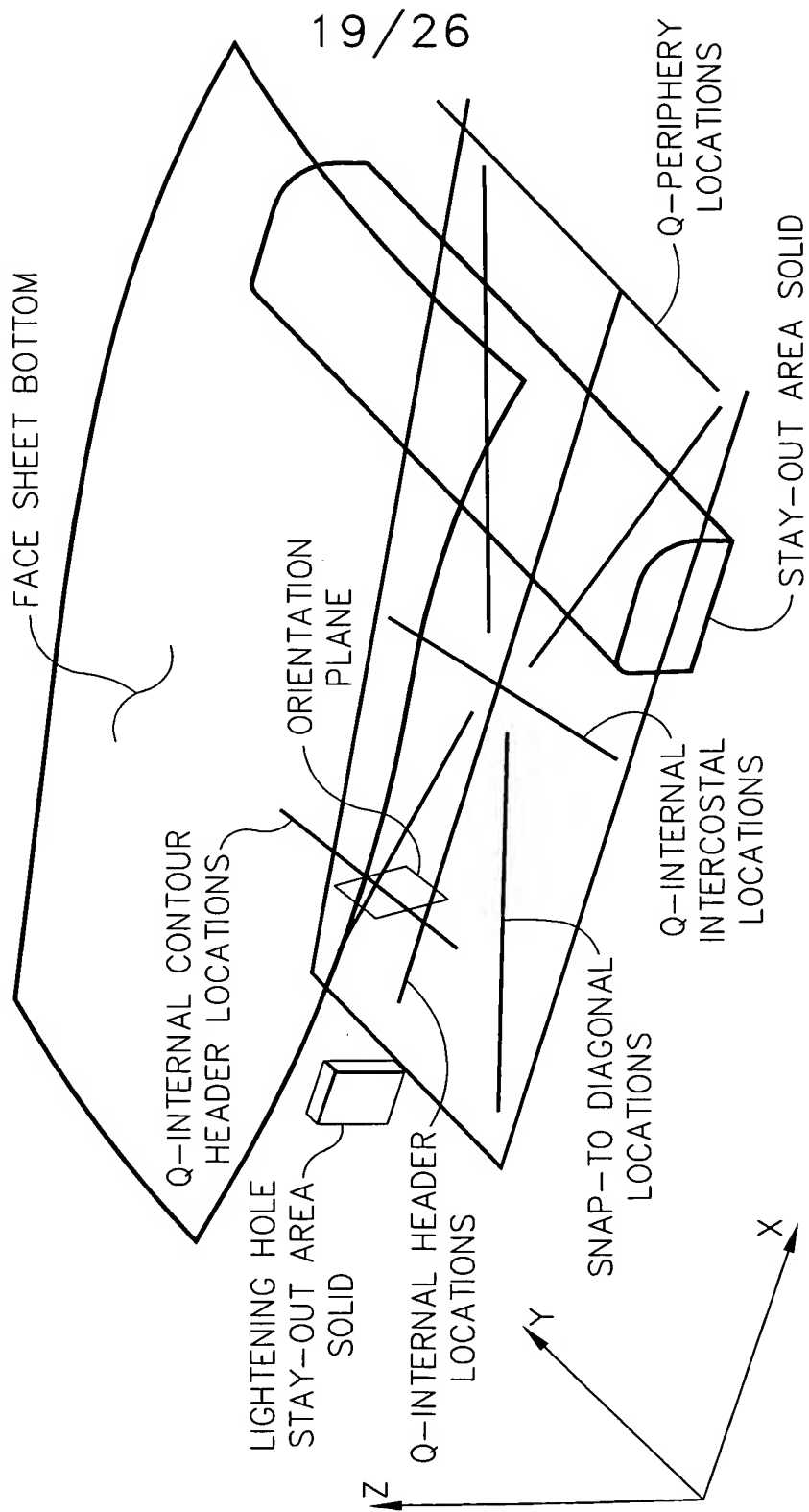


FIG. 14



QUICK 3D INPUT SKETCH

FIG. 15

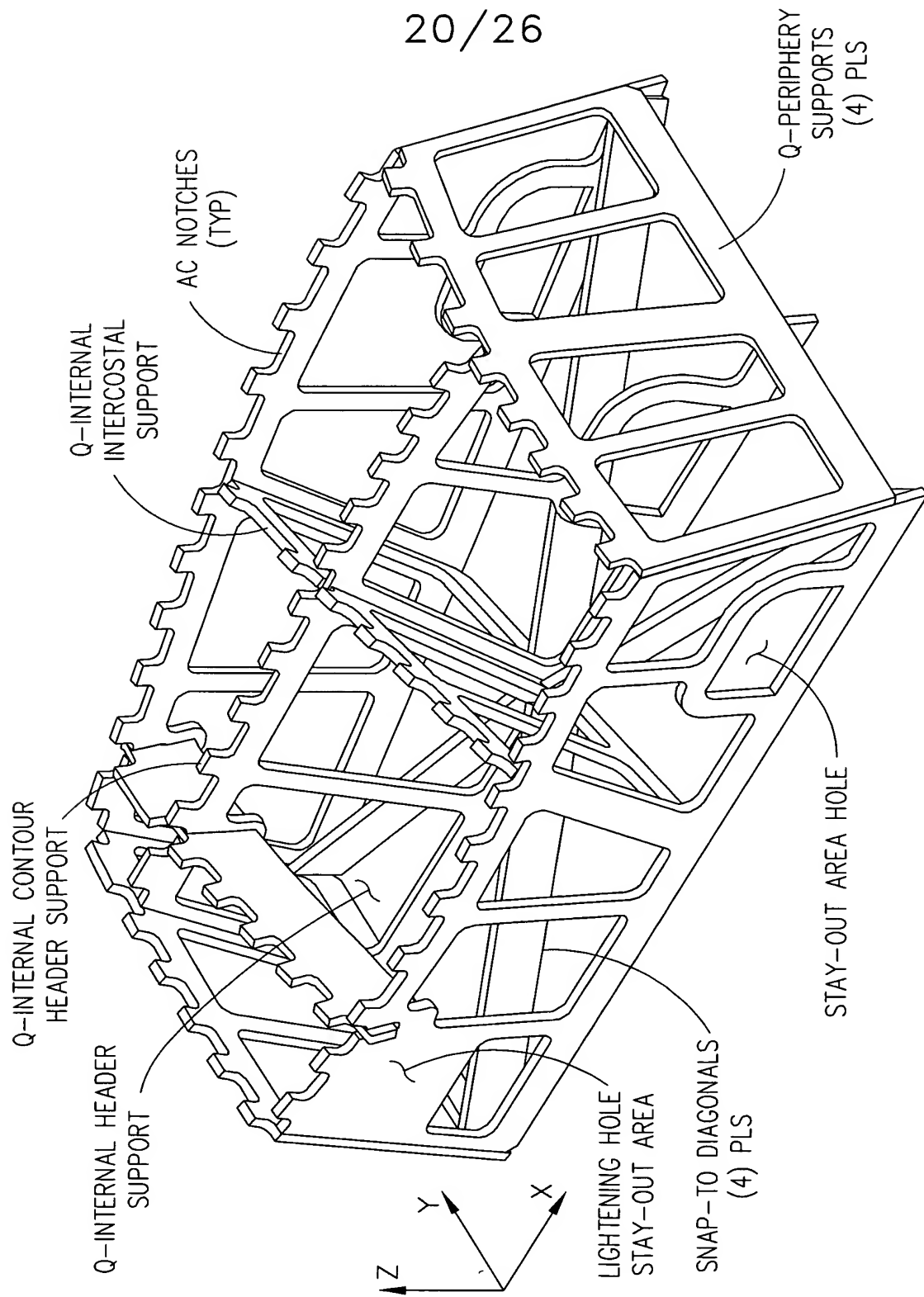


FIG. 16A

3D SPACE OUTPUT

ITS Intelligent Tooling System		ICAD Input Spec Sheet	
Job Data Date: 7/6/1999 Load Version: 7.0.1 Application: Eggcrate Substructure Module Version: 11 Name: John Doe Organization: A-1021 Phone Number: 555-5555		Tool Info Tool Code: LM Tool Number: 1234567-TEST Sheet Number: 1 Sheet Rev Level: NEW Part Number: 1 Tdr Tf Cs Number: 11234567	
Input Attribute Periphery Support Thk: 0.375 Interior Support Thk: 0.25 Contour Seam Support Thk: 0.25 Contour Seam Support Depth: 4 Periphery Support Layer: NIL Interior Intercostal Support Layer: NIL Interior Header Support Layer: NIL Contour Seam Support Layer: NIL Reduce Bsplines Segmentation For Output?: NIL Reduce Bsplines To Lines For Output?: NIL Reduce Bsplines To Lines Chord Ht: 0.01 Reduce Bsplines To Lines Chord Ht Tol: 0.005 Ac Include Air Circulation Notch Features?: T Ac Notch Pattern: FILLETED-NOTCH Ac Min Separation: 2.0 Ac Min Notch To Notch Separation: 1.7 Ac End Separation: 1.0 Ac Notch Depth: 2.0 Ac Max Notch Width: 4.0 Ac Min Notch Width: 2.5 Ac Notch Fillet Radius: 0.5 Ac Default Fit Factor: 0.6 Ac Bottom Fit Factor: 0.6 Lh Include Lightening Hole Features?: T Lh Type: BLENDED-RECTANGLE Lh Fillet Radius: 0.5 Lh Max Hole Width: 22 Lh Min Hole Width: 6 Lh Truss Thickness: 1 Lh Stacked Holes?: T		Input Attribute Lh Stack Separation: 1 Lh Max Hole Height: 12 Lh Min Hole Height: 6 Lh Double Truss?: T Lh Single Truss Pattern: ALTERNATE-STACK-AND-SUBSET Lh Stayout Area Solids: NIL Lh Remove Holes That Touch?: NIL	

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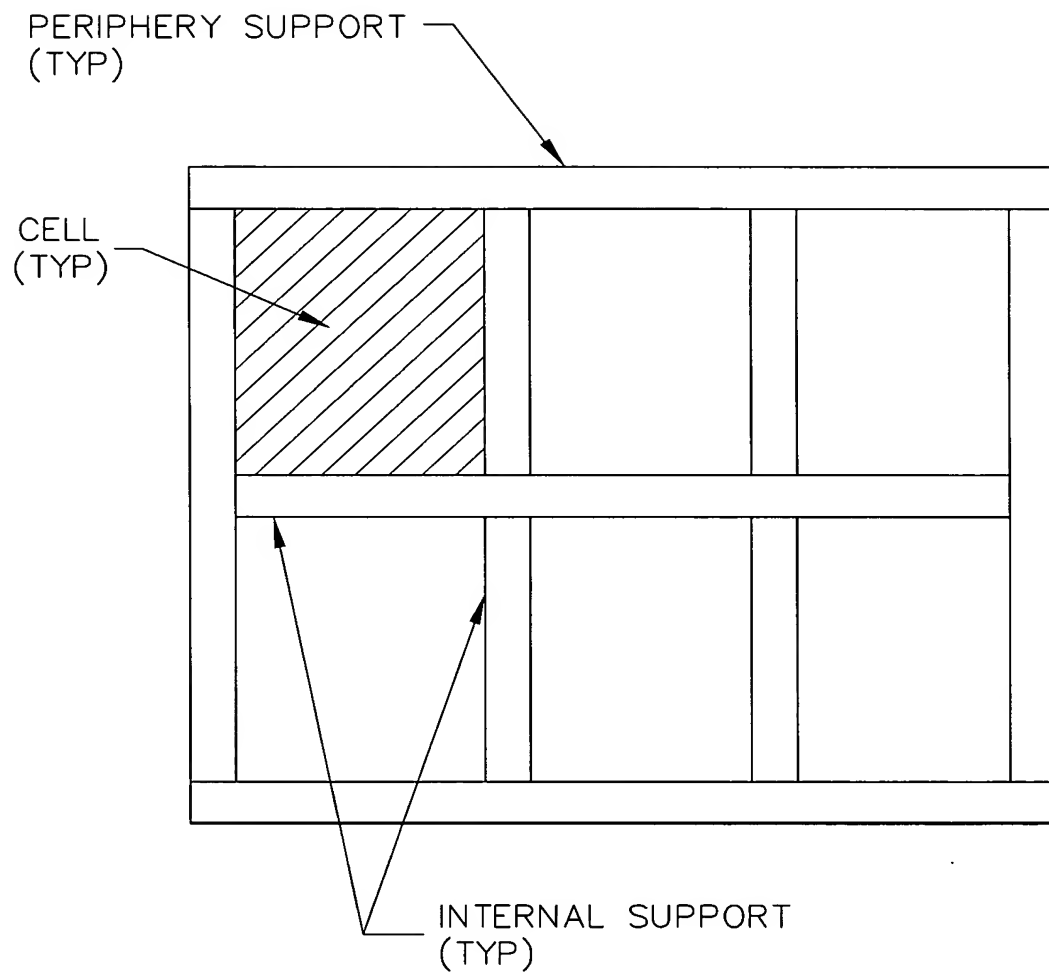


FIG. 17

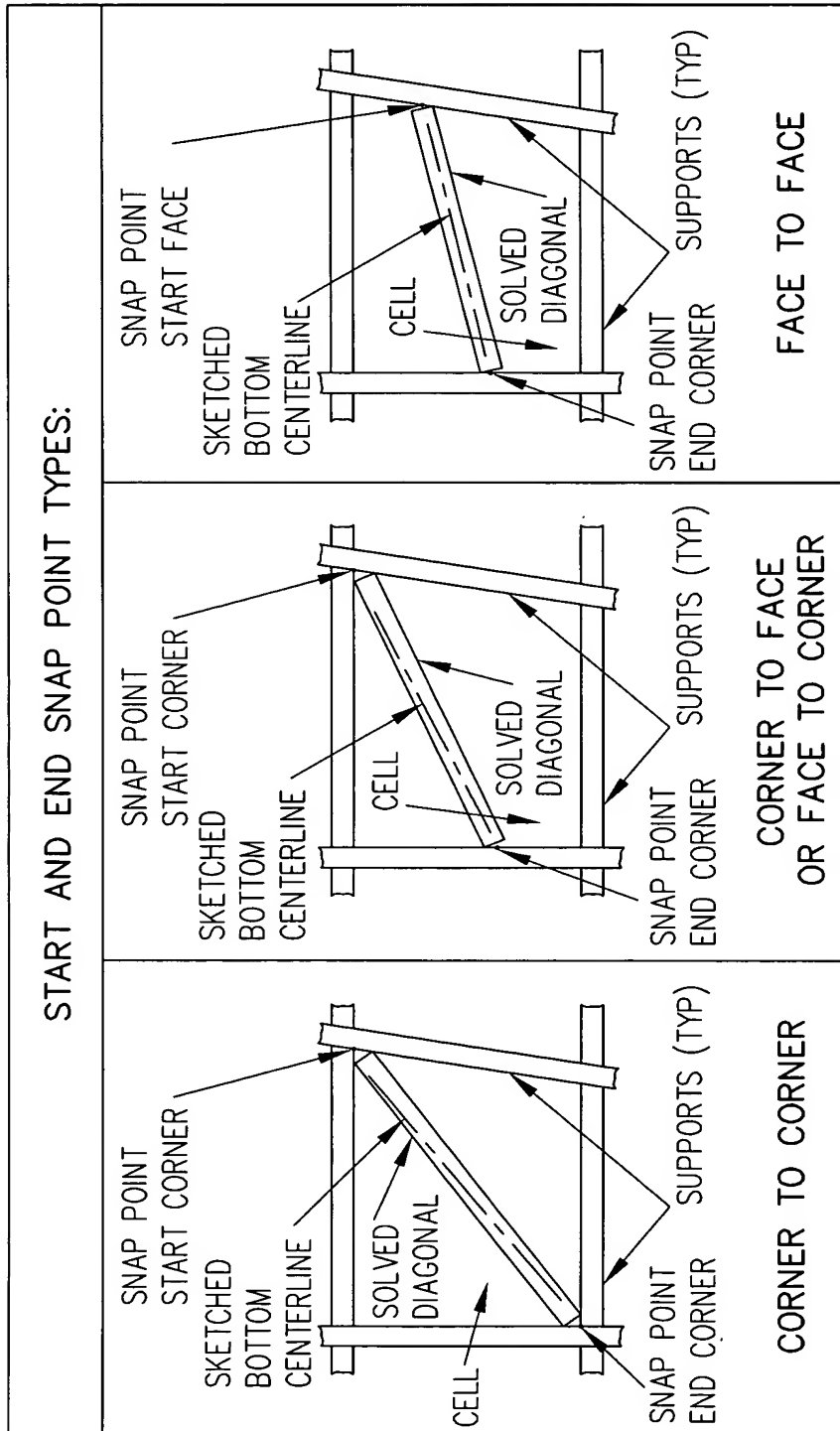


FIG. 18

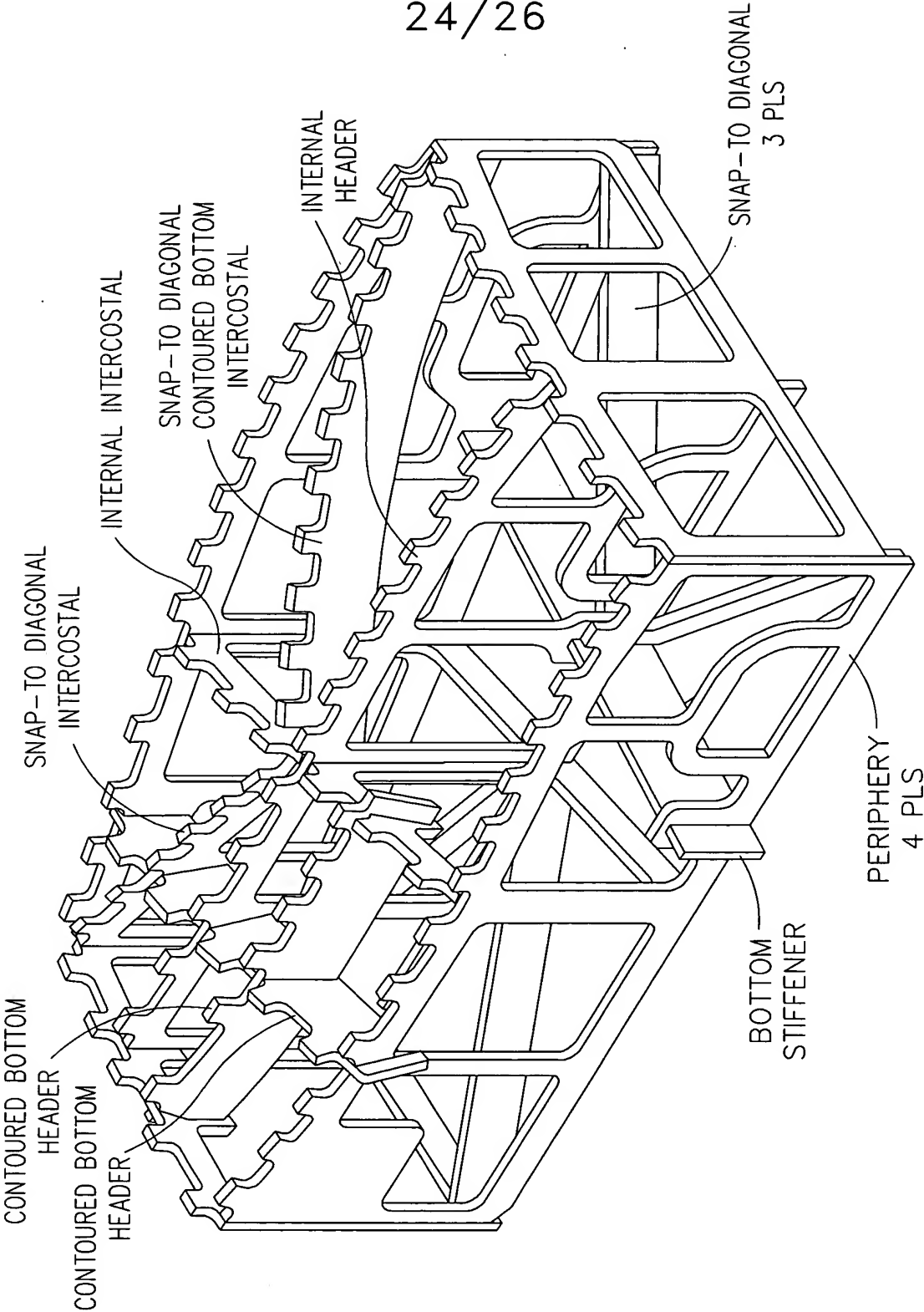


FIG. 19

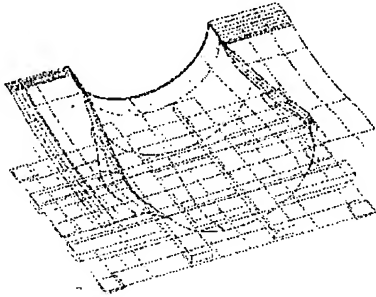
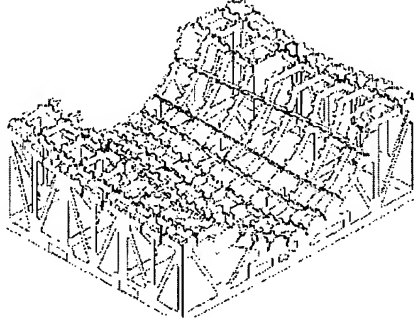
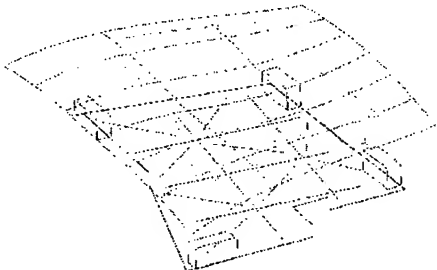
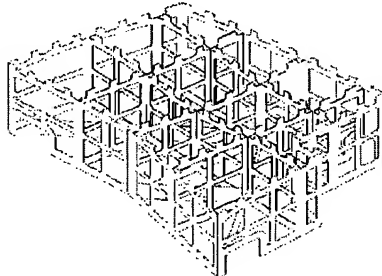
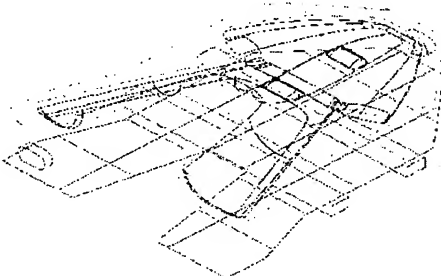
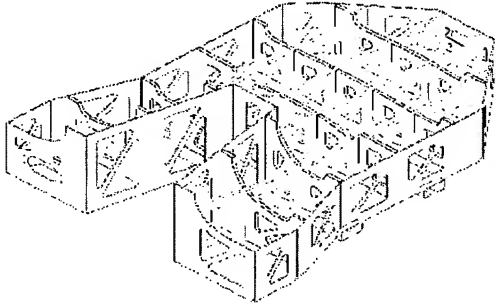
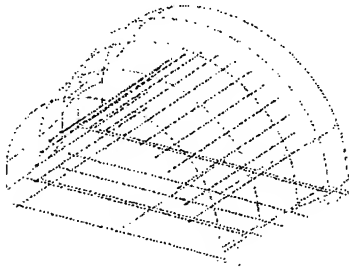
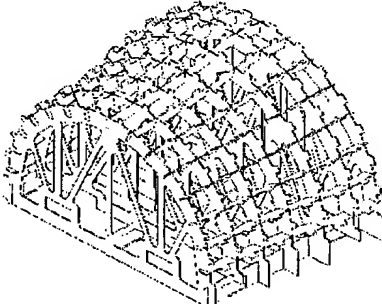
INPUTS	OUTPUTS
	
	
	
	

FIG. 20A

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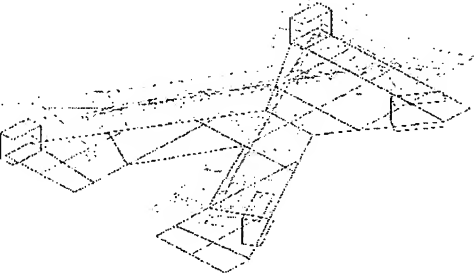

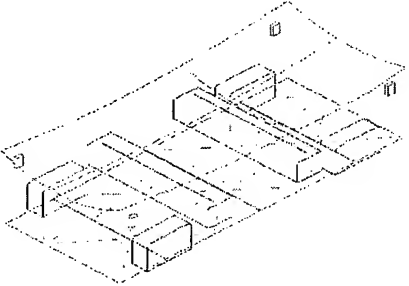
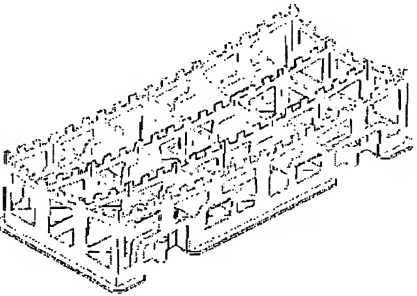
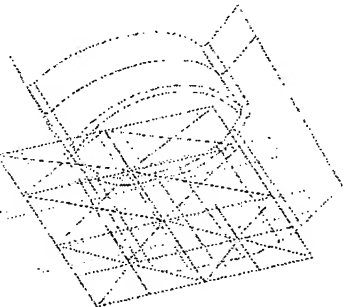
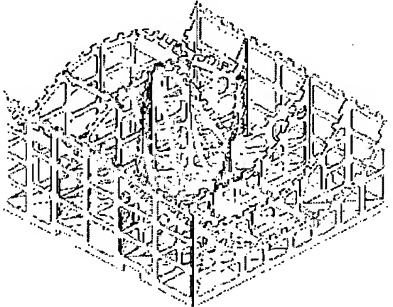
INPUTS	OUTPUTS
	
	
	

FIG. 20B